

WHAT IS CLAIMED IS:

1. A band pass filter with a signal input end and a signal output end, comprising:
a first resonant capacitor, connected between the signal input end and a ground,
a first serial inductor, connected between the signal input end and a first junction point,
a first parallel inductor, connected between the first junction point, and the ground,
a compensating inductor, connected between the first junction point and a second junction point,
a second parallel inductor, connected between the second junction point and the ground,
a second serial inductor, connected between the second junction point and the signal output end, and
a second resonant capacitor, connected between the signal output end and the ground,
wherein the filter has a coupling coefficient determined by the inductances of the compensating inductor, the first parallel inductor, and the second parallel inductor.
2. The band pass filter as claimed in Claim 1, wherein the first resonant capacitor and the second resonant capacitor have the same capacitance.
3. The band pass filter as claimed in Claim 1, wherein the first serial inductor and the second serial inductor have the same inductance.
4. The band pass filter as claimed in Claim 1, wherein the first parallel inductor and the second parallel inductor have the same inductance.
5. The band pass filter as claimed in Claim 1, wherein the coupling coefficient is determined by tuning inductances of the compensating inductor and the first parallel inductor, and have the value of

$$\frac{Lm'-(Lm'//Lm1)}{2+Lm'-(Lm'//Lm1')}$$

wherein Lm' is the inductance of the first parallel inductor divided by the inductance of the first serial inductor, $Lm1'$ is the inductance of the

compensating inductor divided by the inductance of the first serial inductor, then divided by 2, and L_m'/L_{m1}' is the equivalent inductance of the parallel inductance of L_m' and L_{m1}' .